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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/500,491

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Holger Monch

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

LEE, NATHANIEL JAMES

ART UNIT

PAPER NUMBER

4126

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/500,491	<b>Applicant(s)</b> MONCH ET AL.	
	<b>Examiner</b> NATHANIEL J. LEE	<b>Art Unit</b> 4126	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 1-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>29 June 2004</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Abstract***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it uses the legal phraseology "means", it uses the phrase "the invention relates to..." which can be implied, and in general is not very clearly written. Correction is required. See MPEP § 608.01(b).

### ***Specification***

3. The disclosure is objected to because of the following informalities: grammatical errors and confusing language, examples of which follow:

- a. Page 2 line 33 uses both "such as" and "for example" in sequence when only one is required. This error is repeated elsewhere.

b. Page 3 lines 33-34 uses the phrase “more or all”; “most” should be used instead of “more”, since there is no comparison being made to another quantity (more than what?).

c. Page 4 lines 28-30 uses the phrase “increased down”. It would be preferable for this to be “increased as it approaches the bottom” to make clear that it is the wall thickness that is increasing and the elevation of the portion of the wall in question that is decreasing. This error is repeated elsewhere.

Appropriate correction is required.

#### ***Claim Objections***

4. Claim 10 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

5. Claims 1-10 is objected to because of inconsistent terminology: claim 1 contains the limitation "a coolant" then later "a liquid coolant". This amounts to a broad limitation and a narrow limitation within the same claim, which renders the scope of the claim indefinite and unclear. Claims 2-10 are also objected to because they inherit the deficiency of claim 1 since they depend from claim 1.

6. Claim 3, 6, 8, 9, and 10 are objected to because of the use of the word “and/or” in claims 3 and 6. Since the meaning of the claims are different depending on whether “and/or” means “and” or “or”, the scopes of these claims are indefinite. Claims 8, 9, and 10 are also objected to because they inherit the deficiency of claim 3 since they depend from claim 3.

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7. Claims 1, 6 will be interpreted as invoking 35 U.S.C. 112 6th paragraph by using means plus function language. In the case of claim 1, this is the "cooling means", and in claim 6 it is the "means...such that the heat transfer coefficient at the point(s) in question can be acted on". If this is not the applicant's intent, correction is suggested.

8. Claim 7 is objected to because of the use of the phrase "increases down". A better way of stating the intent of the claim may be "...characterized in that the wall thickness of the region that is situated above the discharge chamber increases as it approaches the region situated at the bottom".

9. Claim 8 is objected to for lacking enablement for claiming rotation of the lamp without disclosing an apparatus for rotating the lamp. Accordingly, for the purposes of this action, claim 8 is interpreted as being encompassed by, or an obvious variant of, the claims from which it depends.

10. Claim 9 is objected to for claiming undisclosed matter. The only mention of "acoustic resonances" in the specification is a reference to other patents. All claimed subject matter should be directly disclosed clearly, completely, and concisely.

Accordingly, since the only teaching in the instant application is the reference to other patents, all the elements of claim 9 are interpreted as being completely anticipated by the referenced patents.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1, 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linder et al. (US 4,994,705) in view of Fujimura et al. (US 4,482,842).

13. With respect to claim 1: Linder et al. (US 4,994,705), hereafter known as Linder, discloses “at least comprising a cooled lamp envelope (24 (Fig. 2))(43) that seals off hermetically a discharge chamber (28 (Fig. 2))(431) filled with a gas (column 3 lines 26-34), there being, at least in the discharge chamber (431), a non-uniform temperature distribution at the time of the gas discharge (column 4 lines 34-36), and comprising a cooling means (Linder claim 1)(7) having a coolant (34 (Fig. 2)), which cooling means (7) produces a directed flow (9) of coolant (Linder claim 1), characterized in that a liquid coolant acts on the envelope (43) of the lamp (column 4 lines 12-15), the lamp can be operated at a higher power and the flow (9) of coolant is such that, when the power consumption of the lamp is increased (column 4 lines 12-15), any devitrification of the envelope (43) of the lamp and any condensation of the gas is substantially prevented (column 4 lines 34-36, with the assumption that if uniform heat

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removal is accomplished both localized devitrification and condensation are avoided)” but does not disclose “a cooled high-pressure gas-discharge lamp” (Linder discloses a low-pressure gas-discharge lamp). However, Fujimura et al. (US 4,482,842), hereafter known as Fujimura, discloses “a cooled high-pressure gas-discharge lamp (entire patent)”. It would have been obvious at the time of the invention for one of ordinary skill in the art to modify cooling system of Linder by applying it to the high pressure discharge lamp of Fujimura, with the motivation being to expand the number of uses for the lamp.

14. With respect to claim 4: Linder discloses “a high-pressure gas-discharge lamp as claimed in claim 1, characterized in that the coolant flow (34 (Fig. 2))(9) is directed straight onto at least a region of the lamp envelope (24 (Fig. 2))(43) that is situated above the discharge chamber (431) and is at the highest temperature (26 (Fig. 2))”.

15. With respect to claim 5: Linder discloses “a high-pressure gas-discharge lamp as claimed in claim 1, characterized in that the region that is above the discharge chamber (431) in the particular installed position of the lamp has a better heat-transfer coefficient than the region situated below the discharge chamber (431) (column 3 lines 58-61)”.

16. With respect to claim 6: Linder discloses “a high-pressure gas-discharge lamp as claimed in claim 5, characterized in that means are arranged in the region below and/or above the discharge chamber (431) and/or the lamp envelope (43) is sized, such that the heat-transfer coefficient at the point(s) in question can be acted on (column 3 lines 58-61)”.

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17. With respect to claim 7: Fujimura discloses “a high-pressure gas-discharge lamp as claimed in claim 6, characterized in that the wall thickness of the region that is situated above the discharge chamber (431) increases down to the region situated at the bottom (column 4 lines 36-50)”.

18. With respect to claim 8: In light of the objection to claim 8 (see above), claim 8 has been interpreted as being encompassed by, or an obvious variant of, the claims from which it depends: claims 1 or 2 or 3. Claim 1 has been rejected for the reasons cited above, therefore claim 8 is also rejected.

19. Claims 1, 2, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linder et al. (US 4,994,705) in view of Fujimura et al. (US 4,482,842); further in view of Roberts et al. (US 4,785,216).

20. Claim 1 is rejected as being unpatentable over Linder in view of Fujimura for the reasons cited above.

21. With respect to claim 2: Neither Linder nor Fujimura explicitly teaches “a high-pressure gas-discharge lamp as claimed in claim 1, characterized in that the high-pressure gas-discharge lamp is a short-arc lamp for projection purposes”. However, Roberts et al. (US 4,785,216), hereafter known as Roberts, discloses “a high-pressure gas-discharge lamp as claimed in claim 1, characterized in that the high-pressure gas-discharge lamp is a short-arc lamp for projection purposes (column 1 lines 7-9)”. It would have been obvious at the time of the invention for one of ordinary skill in the art to modify the invention of Linder in view of Fujimura into a short arc lamp as disclosed by Roberts, with the motivation given by Roberts in column 1 lines 11-12 that short arc

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lamps provide “compact yet intense sources of light” applicable in many fields (see Roberts column 1 lines 1-45).

22. With respect to claim 8: In light of the objection to claim 8 (see above), claim 8 has been interpreted as being encompassed by, or an obvious variant of, the claims from which it depends: claims 1 or 2 or 3. Claims 1 and 2 have been rejected for the reasons cited above, therefore claim 8 is also rejected.

23. Claims 1, 3, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linder et al. (US 4,994,705) in view of Fujimura et al. (US 4,482,842); further in view of Zehner (US 2,822,489).

24. Claim 1 is rejected as being unpatentable over Linder in view of Fujimura for the reasons cited above.

25. With respect to claim 3: Neither Linder nor Fujimura disclose “a high-pressure gas-discharge lamp as claimed in claim 1, characterized in that the flow (9) of coolant is controlled, and/or is driven in a closed circuit, by the cooling means (7) as a function of the power consumption of the lamp”. However, Zehner (US 2,822,489), hereafter known as Zehner, discloses “a high-pressure gas-discharge lamp as claimed in claim 1, characterized in that the flow (9) of coolant is controlled, and/or is driven in a closed circuit, by the cooling means (7) as a function of the power consumption of the lamp (column 3 lines 34-39, with the assumption that temperature varies according to power consumption during normal operation of the lamp)”. It would have been obvious at the time of the invention for one of ordinary skill in the art to control the invention of Linder in view of Fujimura using Zehner's device, with the motivation given by Zehner in

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column 1 lines 32-36 and lines 43-47 to prevent either overheating and the associated risk of damage to the lamp or overcooling and the associated risk of low vapor pressure in the lamp which prevents normal operation.

26. With respect to claim 8: In light of the objection to claim 8 (see above), claim 8 has been interpreted as being encompassed by, or an obvious variant of, the claims from which it depends: claims 1 or 2 or 3. Claims 1 and 3 have been rejected for the reasons cited above, therefore claim 8 is also rejected.

27. Claims 1, 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linder et al. (US 4,994,705) in view of Fujimura et al. (US 4,482,842); in further view of Miyazaki et al. (US 5,880,561).

28. Claims 1, 4-8 are rejected as being unpatentable over Linder in view of Fujimura for the reasons cited above.

29. With respect to claim 9: Linder in view of Fujimura does not disclose “a high-pressure gas-discharge lamp as claimed in any of claims 1 to 3, characterized in that homogenization of the temperature distribution in the discharge chamber (431) takes place as a result of the lamp being operated in the region of so-called acoustic resonances”. However, Miyazaki et al. (US 5,880,561), hereafter known as Miyazaki, discloses “a high-pressure gas-discharge lamp as claimed in any of claims 1 to 3, characterized in that homogenization of the temperature distribution in the discharge chamber (431) takes place as a result of the lamp being operated in the region of so-called acoustic resonances (Miyazaki claim 1, column 5 lines 10-21)”. It would have been obvious at the time of the invention for one of ordinary skill in the art to modify the

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invention of Linder in view of Fujimura by operating it in the region of acoustic resonances as disclosed by Miyazaki, with the motivation given by Miyazaki in column 5 lines 17-21 of making the temperature distribution around the arc tube uniform.

30. With respect to claim 10: All references teach the additional limitation of claim 10: “a lighting unit for lighting and/or projection purposes having at least one high-pressure gas-discharge lamp as claimed in any of claims 1 to 9”, since the purpose of any lamp is to be used as a lighting unit for lighting purposes.

31. Claims 1, 2, and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linder et al. (US 4,994,705) in view of Fujimura et al. (US 4,482,842); in further view of Roberts et al. (US 4,785,216); in further view of Miyazaki et al. (US 5,880,561).

32. Claims 2 and 8 are rejected as being unpatentable over Linder in view of Fujimura; in further view of Roberts for the reasons cited above.

33. With respect to claim 9: Linder in view of Fujimura; further in view of Roberts, does not disclose “a high-pressure gas-discharge lamp as claimed in any of claims 1 to 3, characterized in that homogenization of the temperature distribution in the discharge chamber (431) takes place as a result of the lamp being operated in the region of so-called acoustic resonances”. However, Miyazaki et al. (US 5,880,561), hereafter known as Miyazaki, discloses “a high-pressure gas-discharge lamp as claimed in any of claims 1 to 3, characterized in that homogenization of the temperature distribution in the discharge chamber (431) takes place as a result of the lamp being operated in the region of so-called acoustic resonances (Miyazaki claim 1, column 5 lines 10-21)”. It would have been obvious at the time of the invention for one of ordinary skill in the art to

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modify the invention of Linder in view of Fujimura; further in view of Roberts, by operating it in the region of acoustic resonances as disclosed by Miyazaki, with the motivation given by Miyazaki in column 5 lines 17-21 of making the temperature distribution around the arc tube uniform.

34. With respect to claim 10: All references teach the additional limitation of claim 10: “a lighting unit for lighting and/or projection purposes having at least one high-pressure gas-discharge lamp as claimed in any of claims 1 to 9”, since the purpose of any lamp is to be used as a lighting unit for lighting purposes.

35. Claims 1, 3, and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linder et al. (US 4,994,705) in view of Fujimura et al. (US 4,482,842); in further view of Zehner (US 2,822,489); in further view of Miyazaki et al. (US 5,880,561).

36. Claim 3 is rejected as being unpatentable over Linder in view of Fujimura; further in view of Zehner for the reasons cited above.

37. With respect to claim 9: Linder in view of Fujimura; further in view of Zehner, does not disclose “a high-pressure gas-discharge lamp as claimed in any of claims 1 to 3, characterized in that homogenization of the temperature distribution in the discharge chamber (431) takes place as a result of the lamp being operated in the region of so-called acoustic resonances”. However, Miyazaki et al. (US 5,880,561), hereafter known as Miyazaki, discloses “a high-pressure gas-discharge lamp as claimed in any of claims 1 to 3, characterized in that homogenization of the temperature distribution in the discharge chamber (431) takes place as a result of the lamp being operated in the region of so-called acoustic resonances (Miyazaki claim 1, column 5 lines 10-21)”. It

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would have been obvious at the time of the invention for one of ordinary skill in the art to modify the invention of Linder as described above, and further modify the resulting invention by operating it in the region of acoustic resonances as disclosed by Miyazaki, with the motivation given by Miyazaki in column 5 lines 17-21 of making the temperature distribution around the arc tube uniform.

38. With respect to claim 10: All references teach the additional limitation of claim 10: "a lighting unit for lighting and/or projection purposes having at least one high-pressure gas-discharge lamp as claimed in any of claims 1 to 9", since the purpose of any lamp is to be used as a lighting unit for lighting purposes.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATHANIEL J. LEE whose telephone number is (571)270-5721. The examiner can normally be reached on Monday-Thursday, 8:00 a.m.-5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Nguyen can be reached on (571)272-2424. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. J. L./  
Examiner, Art Unit 4126

/James P. Hughes/  
Primary Examiner, Art Unit 2883